LANDO, R.L.

Multiple hemorrhagic telangiectasis (Osler's disease) and its
occurrence in the oral cavity. Stomatologiia 38 no.3:6-8
My-Je '59.   (MIRA 12:8)

1. Iz kafedry propedevtiki khirurgicheskoy stomatologii (zav. -
dotsent G.A.Vasil'yev) Moskovskogo meditsinskogo stomatologi-
cheskogo instituta (dir. - dotsent G.N.Beletskiy) i Moskovskogo
chelyustno-litsevogo gospitalya (glavnyy vrach - dotsent A.A.
Kovner).
            (ERYTHEMIA)   (MOUTH--DISEASES)

LANDO, S., mekhanik; MNUKHIN, L., inzhener.

Experience in repairing thin-walled parts of gray cast iron by electric
welding. Avt.transp. 32 no.9:25-26 S '54.   (MIRA 7:11)
        (Automobiles--Repairing) (Electric welding)

LANDO, Semen Yakovlevich; SHNEYDERMAN, M.A., red.; BODANOVA, A.P.,
        tekhn. red.

        [Repairing a cylinder block by electric welding and epoxy resin]
        Remont bloka tsilindrov elektrosvarkoi i epoksidnym kleem. Mo-
        skva, Avtotransizdat, 1962. 31 p.   (MIRA 15:6)
                        (Cylinders--Maintenance and repair)

LANDO, Semen Yakovlevich; GUROV, S., red.; KUZNETSOVA, A., tekhn. red.

[Welding of body elements]Svarka korpusnykh detalei. Moskva,
Mosk. rabochii, 1962. 51 p.   (MIRA 15:11)
                   (Automobiles—Bodies)
            (Welding—Equipment and supplies)

~~16(1)~~ 16,4500

67090
SOV/44-59-1-475

Translation from : Referativnyy zhurnal.Matematika,1959,Nr 1,p 96 (USSR)

AUTHOR: Lando, Yu.K.

TITLE: Cauchy Function of a Linear Integro-Differential Equation of
Volterra Type

PERIODICAL: Uch.zap.Minsk.gos.ped. in-ta, 1956, vyp 5, 41 - 47

ABSTRACT: The author constructs the analogue of the Cauchy function for
the linear integro-differential equation

$$M(u) \equiv L(u) - \lambda \sum_{i=0}^{n-1} \int_a^x K_i(x,y)u^{(i)}(y)dy = 0$$

where

$$L(u) = \sum_{i=0}^{n} p_i(x)u^{(i)}(x)$$

With the aid of this function the author finds an explicit expression
for the partial solution of the inhomogeneous equation $M(a) = f(x)$.

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67090

16(1)   SOV/44-59-1-475
Cauchy Function of a Linear Integro-Differential Equation of Volterra Type

Remark of the reviewer : On the Third All-Union Congress of Mathematics
(Referativnyy zhurnal.Matematika,1957,1500) the reviewer reported on the
same method which consists in the transition from a system of integro-
differential equations to the corresponding inhomogeneous system, and
on the application of this method for the investigation of the stability
of solutions of non-linear integro-differential equations. For more de-
tails see chapters I and IV of the monograph of the reviewer "On Some
Problems of the Theory of Integro-Differential Equations".

Ya.V. Bykov

Card 2/2

16.4500

25763
S/044/60/000/004/004/006
C111/C333

AUTHOR: Lando, Yu. K.

TITLE: On the Green function of the boundary value problem for
            a Volterra integro-differential equation

PERIODICAL: Referativnyy zhurnal, Matematika, no. 4, 1960, 77,
            abstract 4145. (Uch. zap. Minsk. gos. ped. in-ta, 1958,
            vyp 9, 65-70)

TEXT: The construction of the Green function of the boundary
value problem

$$u^{(n)}(x) + \sum_{k=0}^{n-1} \left[P_k(x)\, u^{(k)}(x) - \int_0^x A_k(x,y,\lambda)\, u^{(k)}(y)\, dy \right] = f(x) \qquad (1)$$

$$R_i(u) = \sum_{k=0}^{n-1} \left[\alpha_{ik} u^{(k)}(0) + \beta_{ik} u^{(k)}(1) \right] = 0 \qquad (2)$$

$$(i = 1, \ldots, n)$$

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On the Green function of the . . .

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S/044/60/000/004/004/006
C111/C333

is described, where $A_k(x,y,\lambda)$ are analytic functions of the parameter λ in a certain domain (D). The coefficients of (1) are assumed to be continuous in the square $0 \leqslant x$, $y \leqslant 1$. In the case of a simple pole λ_0 the author explicitly expresses the main part of the Green function by the eigenfunctions of the boundary value problem (1)-(2) and of the adjoint problem.

[Abstracter's note: Complete translation.]

Card 2/2

16(1)

AUTHOR: Lando,Yu.K.   SOV/140-59-2-11/30

TITLE: Development of Functions in Terms of Eigenfunctions of Boundary
           Value Problems for Integro-Differential Equations of the Type of
           Volterra (Razlozheniye funktsiy po sobstvennym funktsiyam
           krayevykh zadach dly integro-differentsialnykh uravneniy tipa
           Vol'terra)

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Matematika, 1959,
           Nr 2, pp 118-127 (USSR)

ABSTRACT: The first part of the paper is already published $\underline{/}$Ref 1$\underline{/}$. In
           the second part the author considers the boundary value problem

$$u^{(n)}(x)+\sum_{i=0}^{n-2} a_i(x)u^{(i)}(x)+\sum_{i=0}^{n-1}\int_0^x A_i(x,t,\sqrt[n+1]{\lambda})u^{(i)}(t)dt+\lambda\int_0^x u(t)dt = 0$$

$$R_i(u) = 0 \qquad i = 1,2,\ldots,n \quad ,$$

           where the A_i are analytic bounded functions of $\varsigma = \sqrt[n+1]{\lambda}$ in

$$0 \leqslant \arg \varsigma < \frac{2\pi}{n+1} \quad ,$$ while the boundary conditions are regular.

Card 1/2   Theorem: If the n first derivatives of $f(x)$ are continuous, if

Development of Functions in Terms of Eigenfunctions   SOV/140-59-2-11/30
of Boundary Value Problems for Integro-Differential
Equations of the Type of Volterra

$f(x)$ satisfies the regular boundary conditions and if all eigen-
values of the boundary value problem are simple, then $f(x)$ can
be developed into a uniformly convergent series in terms of
eigenfunctions:

$$f(x) = \sum_{k=1}^{\infty} a_k u_k(x)$$

$$a_k = \int_0^1 f(t)\overline{z_k(t)}\,dt \ ,$$

where $u_k(x)$ and $z_k(x)$ are the eigenfunctions of the problem and
the conjugate problem corresponding to the eigenvalues λ_k
There are 3 Soviet references.

ASSOCIATION: Minskiy pedagogicheskiy institut imeni A.M.Gor'kogo (Minsk
Pedagogical Institute imeni A.M.Gor'kiy)

SUBMITTED: March 27, 1958

Card 2/2

LANDO, Yu.K.

       Boundary problem for Fredholm's linear integrodifferential equa_
tions of the second kind. Vestsi AN BSSR. Ser. Fiz.-tekh. nav.
no. 4:11-21 '60.   (MIRA 14:1)
               (Integral equations)

16.4500

26457
S/140/61/000/003/003/009
C111/C333

AUTHOR: Lando, Yu. K.

TITLE: The boundary value problem for linear integro-differential equations of Volterra type in the case of decomposing boundary conditions

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Matematika, no. 3, 1961, 56-65

TEXT: In § 1 the author investigates the expansion in terms of eigen-functions of the boundary value problem for the equation

$$u^{(n)}(x) + \sum_{i=0}^{n-2} a_i(x)u^{(i)}(x) + \sum_{i=0}^{n-1} \int_0^x A_i(x,t,\wp)u^{(i)}(t)dt +$$

$$+ \lambda \int_0^x u(t)dt = f(x), \qquad (1)$$

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The boundary value problem for ...

where $\lambda = \varrho^{n+1}$, with the decomposing boundary conditions

$$R_j(u) = \sum_{k=0}^{n-1} \alpha_{jk} u_0^{(k)} = 0, \qquad j = 1, 2, \dots, m;$$

$$R_j(u) = \sum_{k=0}^{n-1} \beta_{jk} u_1^{(k)} = 0, \qquad j = m+1, m+2, \dots, n. \tag{2}$$

Here $u_0^{(k)} = \left. \dfrac{d^k u}{dx^k} \right|_{x=0}$; $u_1^{(k)} = \left. \dfrac{d^k u}{dx^k} \right|_{x=1}$; $0 \leqslant m < n,$

and it is assumed that the Green function of the problem possesses
simple poles only.
In § 2 the author considers more complicated boundary conditions,
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The boundary value problem for ...

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C111/C333

where the Green function may also have multiple poles.

The investigation is based on former results of M. V. Keldysh (Ref. 2: O sobstvennykh znacheniyakh·i sobstvennykh funktsiyakh nekotorykh klassov nesamosopryazhennykh uravneniy [On eigen values and eigen-functions of some classes of non-selfconjugate equations], DAN SSSR, t. 77, No. 1, 11-14, 1951).

Theorem of M. V. Keldysh: Let H be a complete self-adjoint operator (a certain power of H is assumed to possess the absolute norm), A an arbitrary completely continuous operator; B_1, B_2,..., B_{m-1} -- bounded operators in the Hilbert space. Then the system of the eigen and adjoint functions of the equation

$$v = Lv, \tag{3}$$

$L = A + \lambda HB_1 + \lambda^2 HB_2 + \ldots + \lambda^{m-1} H B_{m-1} + \lambda^m H$, as well as of the conjugate equation is m-fold complete.

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The boundary value problem for ...   C111/C333

The system $v_1^i, v_2^i, \ldots, v_{q-1}^i$ is called adjoint to the eigenfunction v^i of (3) if

$$v^i = L_{\lambda_i}(v^i),\tag{4}$$

$$v_k^i = L_{\lambda_i}(v_k^i) + \frac{1}{1!}\frac{\partial L_{\lambda_i}(v_{k-1}^i)}{\partial \lambda} + \ldots + \frac{1}{k!}\frac{\partial^k L_{\lambda_i}(v^i)}{\partial \lambda^k},$$

where λ_i is the eigenvalue to which v^i corresponds. The number of all eigen and adjoint functions which correspond to λ_i is denoted as multiplicity m_i of the eigenvalue λ_i. For every system of eigen and adjoint functions $v^i, v_1^i, \ldots, v_{q-1}^i$, m chains of functions

$$v_i^{(\nu 0)}, v_i^{(\nu,1)}, \ldots, v_i^{(\nu,q-1)}, \quad \nu = 0,1,2,\ldots, m-1\tag{5}$$

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S/140/61/000/003/003/009
The boundary value problem for ...   C111/C333
can be formed, where

$$v_i^{(\nu,k)} = \left[\frac{d^\nu}{dt^\nu} e^{\lambda_i t} \left\{ v_k^i(x) + v_{k-1}^i(x) \frac{t}{1!} + \ldots + v^i(x) \frac{t^k}{k!} \right\}\right]_{t=0} . \quad (6)$$

The system of functions (5) is called m-fold complete if to an
arbitrary system of m elements $f_1, f_2, \ldots, f_m$ of the Hilbert space
the coefficients $a_k^{(i)}$ can be chosen independently of ν so that it holds

$$f_\nu = \sum_{i=1}^{\infty} \sum_{k=0}^{m_i-1} a_k^{(i)} v_i^{(\nu-1,k)} , \qquad \nu = 1,2,\ldots,m.$$

The operator H is called complete if the system of the eigenfunctions
of $v = \lambda\, Hv$, $\lambda \neq \infty$, is complete.

§ 1. Instead of (1) the author considers

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The boundary value problem for . . .   26457
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C111/C333

$$u^{(n)}(x) + \sum_{i=0}^{n-2} a_i(x) u^{(i)}(x) + \sum_{i=0}^{n-1} \int_0^x A_i(1) u^{(i)}(t)dt +$$

$$+ g^{n+1} \int_0^x u(t)dt = 0 , \qquad\qquad (1^a)$$

where the derivatives $a_i'(x)$ and the functions $A_i(x)$ are assumed to be continuous on $[0, 1]$.

Let h and l be the weights of the matrices

$$A = \begin{Vmatrix} \alpha_{1,0} \cdots\cdots\cdots \alpha_{1,n-1} \\ \cdots\cdots\cdots\cdots\cdots \\ \alpha_{m,0} \cdots\cdots\cdots \alpha_{m,n-1} \end{Vmatrix} \qquad B = \begin{Vmatrix} \beta_{m+1,0} \cdots\cdots \beta_{m+1,n-1} \\ \cdots\cdots\cdots\cdots\cdots \\ \beta_{n,0} \cdots\cdots\cdots \beta_{n,n-1} \end{Vmatrix}$$

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S/140/61/000/003/003/009
C111/C333

The boundary value problem for ...

where α and β are taken from the boundary conditions (2).

Theorem: The boundary value problem (1[a]), (2) has an infinite number of eigenvalues λ_p for which there hold the following asymptotic formulas:

$$\lambda_p = \varsigma_p^{\,n+1} \tag{a}$$

where

$$\varsigma_p = \pi \frac{p + \frac{1}{2} - \frac{h+1+n}{n+1}}{\sin \frac{2q\pi}{n+1}} + O\left(\frac{1}{p}\right) \tag{b}$$

for $n + 1 - m = 2q$, $-\pi/n + 1 \leq \arg \varsigma \leq \pi/n + 1$ and

$$\varsigma_p = \pi \frac{p + \frac{1}{2} - \frac{h+1+n}{n+1}}{\sin \frac{(2q+1)\pi}{x+1}} + O\left(\frac{1}{p}\right) \tag{c}$$

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S/140/61/000/003/003/009
C111/C333

The boundary value problem for ....

for n - m = 2q and · $2\pi/n+1 \leqslant$ arg $\vartheta \leqslant 0$.

Theorem: If $f(x)$ possesses continuous derivatives up to the n-th order inclusively, if it satisfies (2), if all eigenvalues of the boundary value problem (1), (2) are simple, then $f(x)$ is expandable into a uniformly convergent series in terms of the eigenfunctions of this boundary value problem.

For the proof the author obtains estimations of the Green function of (1) - (2) from which it follows that the formulas (a), (b), (c) hold for the eigenvalues of (1) - (2).

§ 2. The author considers the boundary value problem

$$A_\lambda u = u^{(n)}(x) + \sum_{i=0}^{n-1} a_i(x) u^{(i)}(x) + \sum_{i=0}^{n-1} \int_0^x A_i(x,t) u^{(i)}(t) dt -$$

$$- \lambda^m \int_0^x u(t) dt = 0 \qquad (12)$$

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S/140/61/000/003/003/009
The boundary value problem for ...   C111/C333

$$R_i(u) = 0, \quad i = 1,2,\dots,n \quad \cdot \qquad (13)$$

By the transformation $\int_0^x u(t)dt = z(x)$ one obtains

$$R_i\left[\frac{dz}{dx}\right] = 0; \quad z(0) = 0 \qquad (14)$$

instead of (13).

A self-adjoint differential operator

$$M(z) = g^{(n+1)}(x) + \sum_{i=0}^{n-1} b_i(x)\, z^{(i+1)}(x) \qquad (15)$$

is assumed to exist for (14). Then it holds the following.

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Theorem: The system of all eigen and adjoint functions of the boundary value problem (12), (13) is m-fold complete if a self-adjoint differential operator exists for the boundary conditions (14).

M. A. Naymark is mentioned. There are 3 Soviet-bloc references.

ASSOCIATION: Minskiy pedagogicheskiy institut imeni A. M. Gor'kogo (Minsk Pedagogical Institute imeni A. M. Gor'kiy)

SUBMITTED: February 20, 1959

Card 10/10

S/201/63/000/001/003/007
D234/D308

AUTHOR: Lando, Yu.K.

TITLE: Construction of an integro-differential equation
              from its fundamental system of solutions

PERIODICAL: Akademiya navuk Byelaruskay SSR. Vyestsi, Syeryya
              fizika-tekhnichnykh navuk, no. 1, 1963, 24-32

TEXT: The author considers the equation

$$A_1 = \left[L + (B + C) \right] u = f \qquad (1)$$

where

$$Lu = u^{(n)}(x) + p_1(x)u^{(n-1)}(x) + \ldots + p_n(x)u(x) \qquad (2)$$

and

$$Bu \int_0^1 k(x,y)u(y)dy$$

Card 1/2

Construction of an ...

$$Cu = \sum_{i=0}^{n-1} a_i(x)u^{(i)}(0) + b_i(x)u^{(i)}(1)$$

He determines the general solution of (1) containing a function which he calls the Green function of the Cauchy problem. He establishes three theorems dealing with the construction of

$$L(u) + \int_0^1 k(x,y)u(y)dy = 0 \tag{7}$$

from a given set of solutions u_1, u_2 ... u_n, L being also given. If $u^{(n-1)}(a) = 1$ and all lower derivatives of u at $x = a$ are equal to 0, $u(x)$ being a solution of

$$L(u) + \int_a^x k(x,y)u(y)dy = f(x) \tag{3}$$

then $u(x - s + a)$ is a Cauchy function of (3).

Card 2/2

LANDO, Yu.K.

Eigenvalues and eigenfunctions of integro differential operators.
Dif. urav. 1 no. 9:970-980 '65.

1. Minskiy pedagogicheskiy institut imeni A.M. Gor'kogo.

L A N D O D U B ,   Y U . Y E ,

USSR/. General Problems of Pathology. Tumors   U-4

Abs Jour   : Ref Zhur - Biol., No 5, 1958, 23041

Author   : Burshteyn, Sh.A., Varshavskiy, B.M., Ilyevich, A.I.,
              Landodub, Yu.Ye,

Inst   : _____

Title   : The Effects of Radioactive Phosphorus on the Hematopoie-
              tic System in Leukemias and Polycythemia Vera.

Orig Pub   : V sb.: Vopr. luchevoy terapii, Kiyev, Gosmedizdat, USSR
              1956, 86-92

Abstract   : The treatment of patients with chronic myeloid leukemia
              (CML) (22) and chronic lymphatic leukemia (CLL) (18)
              with P^{32} leads to clinical and hematologic remission
              of 6-12 months' duration. In cases of CML the therapy
              was followed by a return of the peripheral leucocyte
              count to normal, and a tendency toward normalization
              of the differential was noted; there was a significant
              decrease in the number of nucleated cells in the bone

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USSR/ General Problems of Pathology. Tumors   U-4

Abs Jour   : Ref Zhur - Biol., No 5, 1958, 23041

marrow aspirate and a return of the ratio of various
granulocytic groups in the myelogram to normal.
There were also similar, but less pronounced, chan-
ges in patients with CLL. P^{32} was most effective in
treatment of the patients with true polycythemia (6)
in whom hemoglobin and erythrocyte count returned to
normal and the genral condition improved during the
next few months following the end of therapy.
The remission caused by P^{32} lasted for approximately
18 months.

Card 2/2

SAAKYAN, A. G.; LANDOGA, V. I.; KAZANCHEV, M. I.

Electrophoretic studies on blood protein fractions in Bechterev's
disease. Terap. 34 no.1:56-61 '62.   (MIRA 15:7)

1. Iz Pyatigorskoy kliniki (glavnyy vrach V. M. Dukhovskoy)
Gosudarstvennogo nauchno-issledovatel'skogo bal'neologicheskogo
instituta na Kavkazskikh mineral'nykh vodakh (dir. - kandidat
meditsinskikh nauk Ye. A. Kamenskiy)

        (SPINE--DISEASES)   (ELECTROPHORESIS)

LANDOR, YE. B.

USSR/Chemistry - Magnesium Halide
    Chemistry - Detones

Dec 48

"Structure and Reaction Capacity of the Magnesium Halide Enolates of Ketones,"
Acad A. N. Nesmeyanov, V. A. Sazonova, Ye. B. Landor, Moscow State imeni N. V. Lomonovov,
4 pp

"Dok Ak Nauk SSSR" Vol LXIII, No 4

Comprehensive study of bromomagnesium derivatives of beta, beta-diphenylpropiomesitylene.
Gives chemical properties of two bromomagnesium enolates of beta, beta-diphenylpropiomesity-
lene and their reactions with benzoyl chloride. Submitted 6 Oct 48.

PA 45/49T12

LANDOVA, M.;   LANDA, S.

250 years of engineering education in Prague from the point of view of fuels technology. p. 149. (Paliva, Vol. 37, No. 5, May 1957, Praha, Czechoslovakia)

SO: Monthly List of East European Accessions (EEAL) LC, Vol. 6, No. 8, Aug 1957. Uncl.

LANDOVA, S.; LANDA, I.

      Making steel for shaped castings. Lit.proizv. no.11:44 N '61.

                                            (MIRA 14:10)

                (Steel—Metallurgy)

LANDOVA-STYCHOVA, L.

"Our jubilees and their historical importance." p. 4.(Rise Hvezd. Vol. 34, no. 1, Feb. 1953.
Praha.)

SO: Monthly List of East European Accessions, Vol. 3, No. 2, Library of Cong., Feb. 1954,Uncl.

LANDOVA-STYCHOVA, L.

"Our objectives." p. 3. (Rise Hvezd. Vol. 34, no. 1, Feb. 1953. Praha.)

SO: Monthly List of East European Accessions, Vol. 3, No. 2, Library of Cong., Feb. 1954,Uncl.

LANDOVA-STYDHOVA, L.

" Our second worker-President of the Czechoslovak Republic, Comrade Antonin Zapotocky". p.
73; "What is new in astronomy and in related sciences." p. 76. (Rise Hvezd. Vol. 34, no. 4, Ap
Apr. 1953. Praha)

SO: Monthly List of East European Accessions, Vol. 3, no. 2, Library of Cong., Feb. 1954, Uncl

LANDOVA-STYCHOVA, L.

"Meditations on May Day 1953; dedicated to the young generation of the Czechoslovak Astronomical Society." p. 99. (Rise Hvezd. Vol. 34, no. 5, June 1953. Praha.)

SO: Monthly List of East European Accessions, Vol. 3, No. 2, Library of Cong., Feb. 1954,
Uncl.

LANDOVA-STYCHOVÁ, L.

"Twenty-five years of the National Popular Observatory in Prague; celebrations of the jubilee of Nicolaus Copernicus' work." p. 123; "Commemorative meeting in tribute to Copernicus in Prague." p. 127. (Rise Hvezd. Vol. 34, no. 6, July 1953. Praha.)

SO: Monthly List of East European Accessions, Vol. 3, No. 2, Library of Cong. Feb. 1954. Uncl.

LANDOVA-STYCHOVA, L.

"Polish celebrations in honor of Nicolaus Copernicus." (p.149). RISE HVEZD.
(Ceskoslovenska spolecnost astronomicka) Praha. Vol. 34, No. 7, Sept. 1953.

SO: East European Accessions List, Vol. 3, No. 8, Aug 1954.

LANDOVA-STYCHOVA, L.

"Popularized Astronomy; People's Observatories and Elections to People's Committees." p. 27, Praha, Vol. 35, no. 2, Feb. 1954.

SO: East European Accessions List, Vol. 3, No. 9, September 1954, Lib. of Congress

F. LANDOVSKY

"Forcing vegetables." p. 41.   (VYZIVA LIDU, Vol. 8, no. 3, Mar. 1953, Praha,
Czechoslovakia.)

SO: Monthly List of East European Accessions, L.C., Vol. 2 No. 7, July 1953, Uncl.

LANDOVSKY, Frantisek, doc. dr. inz.

       Modern working method in the research on gardening.
       Rost vyroba 11 no.1:1-2 Ja '65.

       1. Chair of Gardening of the Higher School of Agriculture,
       Pragua 6, Technicka 3.

S/023/62/000/002/002/002
D234/D308

AUTHORS: Kull', I., Candidate of Physical and Mathematical
             Sciences, and Landra, E.

TITLE: Method of solving the generalized transport problem

PERIODICAL: Akademiya nauk Estonskoy SSR. Izvestiya. Seriya fiziko-
             matematicheskikh i tekhnicheskikh nauk, no. 2, 1962,
             120 – 127

TEXT: The authors offer a method superior to that given in the pa-
pers of V.V. Shkurba, and M.K. Gavurin, G.Sh. Rubinshteyn and S.S.
Surin at the 4th All-Union Mathematical Congress. in 1961. The prob-
lem is formulated in terms of distribution of different kinds of
fuels among different power stations, and solved by generalizing A.
L. Lur'ye's method (V. sb. "Primeneniye matematiki v ekonomicheskikh
issledovaniyakh" (Application of Mathematics in Economic Investiga-
tions), Moscow 1959, 354–389). The method is stated to be especial-
ly suitable for finding nearly optimal distributions. A numerical
example is given. There are 6 tables.

Card 1/2

Method of solving the generalized ...   S/023/62/000/002/002/002
D234/D308

ASSOCIATION: Tartuskiy gosudarstvennyy universitet (Tartu State
University) Institut energetiki AN Estonskoy SSR (In-
stitute of Power Engineering, AS EstSSR)

SUBMITTED: September 18, 1961

Card 2/2

KULL', I. [Kull, I.], kand.fiz.-matem.nauk; LANDRA, E.

Method for solving a generalized transportation problem. Eesti
tead akad tehn fuus   11   no.2:120-127   '62.

1. Tartu State University and Academy of Sciences of the
Estonian S.S.R., Institute of Energetics.

LANDRA, E.

Effect of the composition of Kukersite oil shale on heat losses
accounted for by the combustion products. Izv. AN Est. SSR. Ser.
fiz.-mat. i tekh. nauk 12 no.2:156-163 '63.   (MIRA 16:10)

1. Academy of Sciences of the Estonian S.S.R., Institute of
Energetics.

CUESCO, R., red.; LANDRA, E., red.

       [Fuel and boiler units] Toplivo i kotel'nye ustanovki;
       sbornik statei. Tallin, AN Estonskoi SSR, 1964. 161 p.
                                (MIRA 18:1)
       1. Eesti NSV Teaduste Akadeemia. Institut termofiziki i
       elektrofiziki.

LANDRA, E·K.

LANDRA, E.K.; PARDADE, (.YU.; KITS, A.E.; FOLIKHOV, N.I.

"Glauconite as a Green Pigment and Its Application in Constructional Colors (Paints)," Izv. AN Est SSR, 2, No 1, 10"-121, 1953

The above constitutes the results of an investigation of the glauconite sands of the deposits of Mardu and Lasnamyae (near Tallin, Estonian SSR). In the Mardu deposit the layer of glauconite sands lies at a depth of 6 meters between limestones and dictyoneme shales. The authors carry out a chemical analysis of the glauconite and of its physicomechanical Properties. (RZhGeol, No 1, 1955)

SO: Sum. No. 536, 10 Jun 55

Landra, E. K.

[/Glaukonite—a green pigment replacement for chromium] oxide/ E. K. Landra, O. Yu. Jardane, N. K. Polikarpov, and A. B. Kitso. *Khim. Prom.* 1953, No. 3, 19-21). *Referat. Zhur., Khim.* 1956, Abstr. No. 27281.—Glaukonite, produced from the glaukonite sands from the northern shores of Estonia, is offered as replacement for the expensive C oxide and the unstable Zn and Pb green pigments. The technological process for producing the glaukonite pigment consists of grinding the mineral and subsequent enrichment with a magnetic separator. Afterward, the enriched mineral is ground in a conical ball mill with air sepn. The pigment can be used in glue or lime paints and partially in flat gray-green oil paints. The pigment is light-stable and can be used for outdoor and indoor paints.   N. V.

Distr: 4E4]

LANDRGOT, Bohumir, MUDr.

Toxemias in burns in children. Acta chir. orthop. traum. cech.
22 no.5:190-196 Sept 55.

1. Z oddeleni pro orthopedickou chirurgii a traumatologii
pohybovych ustroji Statni fakultni nemocnice v Plzni,
prednosta doc. MUDr. Dosan Polivka.
        (BURNS, complications
            toxemia, in inf. & child)
        (TOXEMIA
            toxemic burns in inf. & child)

EXCERPTA MEDICA Sec.17 Vol.4/1 Public Health,etc. Jan58

LANDRGOT B.

217. LANDRGOT B. Orthop. Klin., Plzen. Rozbor hornických úrazů na Západočeských uhelných dolech (za dobu od 1.8.1954 do 31.7.1956) *An analysis of mining accidents in West Bohemian mines (1.8.1954 to 31.7.1956)* Acta Chir. orthop. Traum. Čech. 1957, 24/2 (155—161) Graphs 5 Tables 3

From 1948 there have been 1,045 reported accidents which required surgical treatment, 158 of which required hospitalization. Extremities were primarily involved (81.9 %), mostly distal parts (hand 39 %, foot and ankle 23.6 %, more proximal injuries making up the remainder). According to category of work, the greatest accident rate is with the pick (39.5 %), then with transport carts (20 %), then pit prop work (21.5 %) and technical work (19.5 %). Carelessness is the greatest cause, while disorder in the mine and insufficient schooling of new workers come next. There is also insufficient use of safety aids, and ignoring of safety regulations by the insufficiently trained. Accident prevention must be stressed.

LANDRGOT,B.; DRAHY,J.

Injuries of motocyclists. Acta chir.orthop.traum.cech. 27 no.5:
450-458 O '60.

1. Ortopedicka klinika Lekarske fakulty KU se sidlem v Plzni,
doc. MUDr. Polivka Vysoka skola strojni a elektrotechnicka v Plzni
        (ACCIDENTS TRAFFIC)

VEVERKA, Miroslav; LANDRGOT, Bchrmir; CHARVATOVA, Rozena

.Surgical treatment of Achilles tnedon ruptures. Acta chir. orthop.
trauma. Cech. 28 no.6:541-545 D '61.

1. Ortopedicka klinika SFN v Pizni, prednosta doc. dr. D.Polivka.
(HEEL wds & inj)

POLIVKA, Dusan; LANDEGOT, Bohumil

     Scoliosis in mental disorders. Acta chir. orthop. trauma. cech. 29 no.3:249-251 Je '62.

     1. Ortopedicka klinika fakultni nemocnice v Pizni, prednosta doc. dr. D. Polivka Psychiatricka lecebna v Dobranech u Plzne, reditel dr. J. Nemecek.
          (SCOLIOSIS compl)   (MENTAL DISORDERS compl)

LANDRGOT, Bohumir; VEVERKA, Miroslav; CHARVATOVA, Bozena

Experience with primary sutures of hand tendons. Acta chir. orthop.
trauma. Cech. 28 no.2:122-132 Ap '62.

1. Ortopedicka klinika SFN v Pizni, prednosta doc. dr. D. Polivka.
                    (HAND wds & inj)

2

LANDRGOT, B.; POLAK, O.; SUCHAN, J.

CSSR

Orthopedic Clinic SFN (Ortopedicka klinika SFN), Plzen; director: docent D. POLIVKA, MD; Neurological clinic (neurologicka klinika) SFN, Plzen, director: prof. V. PITHA, MD

Bratislava, Bratislavske Lekatske Listy, No 3, 1963, pp 166-170

"Late Sequelae of Injuries to the Cervical Segment of the Vertebral Column"

(3)

LANDRGOT, B.; HOLIK, F.

Indirect fractures of the pelvis in athletes. Acta chir.
orthop. traum. cech. 30 no.3:253-258 Je '63.

1. Ortopedicka klinika lekarske fakulty KU v Plzni, prednosta
doc. dr. D. Polivka Rentgenove oddeleni OUNZ v Praze 6, vedouci
MUDr. F. Holik, CSc.
            (PELVIC BONES)   (FRACTURES) (SPORT MEDICINE)
                (PHYSICAL EDUCATION AND TRAINING)

LANDRGOT, B.

Skin transplantation in binovular twins. Acta chir.orthop.
traum. cech. 30 no.5:373-375   O'63.

1. Ortopedicka klinika lekarske fakulty KU v Plzni, prednosta
doc. dr. D.Polivka.

LANDRGOT,B.; PRIBYL,T.; KAVAN,Z.

Thromboembolic complications in orthopedics and traumatology.
Acta chir. orthop.traum. cech. 30 no.5:438-443 0'63.

1. Ortopedicka klinika lekarske fakulty KU v Plzni, prednosta
doc. dr. D.Polivka.

BURGER, F.; LANDRGOT, B.

Endochondroma of the fingers and metacarpal bones. Acta chir.
orthop. traum. cech. 31 no.2:112-119 Ap '64.

1. Ortopedicka klinika lekarske fakulty KU [Karlova Universita]
v Plzni (prednosta doc. dr. D.Polivka).

BURGER, F.; LANDRGOT, B.

Epidermoid bone cysts in the phalanges of the hand. Acta chir.
orthop. traum. cech. 31 no.2:120-124 Ap '64.

1. Ortopedicka klinika lekarske fakulty KU [Karlova Universita]
v Plzni (prednosta doc.dr.D.Polivka).

LANDRGOT, Bohumir; LEDINSKY, Quido; SUCHAN, Jaroslav.

Injuries to the cervical spine caused by jumping into the
water. Plzen. lek. sborn. 23:107-110 '64

1. Chirurgicka klinika (prednosta: doc. MUDr. J. Spinka), a
ortopedicka klinika (prednosta: doc. MUDr. D. Polivka), le-
karske fakulty University Karlovy se sidlem v Plzni.

LANDRGOT, Bohumir; PRIBYL, Tomas; SAUER, Josef

Fracture of the pelvis after radiotherapy. Plzen. lek. sborn. 23:125-128 '64

1. Ortopedicka klinika (prednosta: doc. MUDr. D.Polivka) a Porodnicka a gynekologicka klinika lekarske fakulty University Karlovy se sidlem v Plzni (prednosta: prof. MUDr. V. Mikolas).

POLIVKA, D.; LANDKGOT, K.

Data on pathological fractures of the femoral neck in women treated by irradiation in gynecological tumors (so-called postirradiation fractures of the femoral neck). Acta chir. orthop. traum. Cech. 31 no.3:216-226 Je '64.

1. Ortopedicka klinika lekarske fakulty Karlovy University v Plzni (prednosta doc. dr. D. Polivka).

POUPA, J.; LANDKROT, R.

Traumatic luxation of the hip joint. (Late results). Acta. chir. orthop. traum. cech. 31 no.1:61-67 F '64.

1. Ortopedicka klinika lekarske fakulty Karlovy University v Plzni (prednosta doc. dr. D. Polivka).

LANDKGOT, R.; LEDINSKY, Q.; SUCHAN, J.

Injuries of the cervical spine. Acta chir. orthop. traum. cech. 31 no.5:457-464 O '64.

1. Ortopedicka klinika (prednosta doc. dr. D. Polivka), neurochirurgicke oddeleni chirurgicke kliniky (prednosta doc. dr. J. Spinka) lekarske fakulty Karlovy University v Plzni.

LANDSBERG, G. A.

    ARONOV, Khanan Mikhaylovich; KREYNDLIN, Lev Naumovich; LANDSBERG, G.A.,
    redaktor; PYATAKOVA, N.D., tekhnicheskiy redaktor

    [Manufacturing window cases and door frames] Proizvodstvo okonnykh
    i dvernykh blokov. Moskva, Gos.izd-vo lit-ry po stroit.materialam,
    1957. 229 p.   (MLRA 10:8)
        (Windows)   (Doors)

LANDSBERG, L.G.

SOV-120-58-1-6/43

AUTHORS: Belonogov, A. V., Zel'dovich, A. G., Kolganov, V. Z.,
Landsberg, L. G., Lebedev, A. V., Nikitin, S. Ya.,
Smolyankin, V. T., Sokolov, A. P.

TITLE: A Photographic Setup for Large Hydrogen Bubble Chambers
(Sistema fotografirovaniya dlya bol'shikh vodorodnykh
puzyr'kovykh kamer)

PERIODICAL: Pribory i Tekhnika Eksperimenta, 1958, Nr 1, pp 38-41
(USSR)

ABSTRACT: A photographic setup for hydrogen bubble chambers of
large dimensions is quite different from that for Wilson
and diffusion chambers. In particular, a gas bubble in
liquid hydrogen scatters light mainly in the forward dir-
ection, most of it between 0 and 10°, say (cf Fig.1) so
that it is impossible to photograph the tracks at 90° to
the incident light as is done in the usual chambers. For
small bubble chambers the photographs may be taken with
direct transmission in which the source of light is on the
one side of the chamber and the photographic camera on the
other (Refs.3-5). However, it is very difficult to use
this system with a large hydrogen chamber since it is des-
irable not to employ large glasses as it is difficult to
Card 1/3 mount these on the main body of the chamber. The present

A Photographic Setup for Large Hydrogen Bubble Chambers.

SOV-120-58-1-6/43

authors have therefore developed a method of illuminating and photographing on one side of the chamber only. This method was tried on the working hydrogen chamber described in Ref.5 (this issue) and is shown in Fig.2. The back wall of the chamber was in the form of a spherical mirror, at the centre of curvature of which the source of light was placed. The light reflected from this mirror is focussed back again at the source and does not enter the objective of the photographic camera (B in Fig.2). The light which after reflection is scattered by the bubbles does enter the photographic camera and gives rise to the track images (Fig.3, facing p.35). The main disadvantage of this method is that in addition to the real images one gets the virtual images as well but these can be recognised by inspection or by a measurement of track co-ordinates by means of 2 stereo-photographs (the virtual image lies behind the mirror). A calculation of the scattered light as a function of angle,

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A Photographic Setup for Large Hydrogen Bubble Chambers.

the result of which is shown in Fig.1, is given in a
mathematical appendix. There are 5 diagrams, no tables and
7 references, of which 4 are English and 3 Soviet.

SUBMITTED: June 3, 1957.

1. Bubble chambers--Equipment   2. Particles--Photographic analysis
3. Photography--Applications

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9.6150

86735

21.5300(2816, 1032, 1144) S/120/60/000/006/009/045
                           E032/E314

AUTHORS: Babayev, A.I. and Landsberg, L.G.

TITLE: A Gas-filled Cherenkov Counter

PERIODICAL: Pribory i tekhnika eksperimenta, 1960, No. 6,
            pp. 40 - 42

TEXT: The counter is illustrated schematically in Fig. 1
and is designed for a working pressure of 25 atm. The beam
of particles is admitted through thin, spherical, stainless-
steel end-windows. The working substance is freon-13 ($CClF_3$).
The optical part of the counter consists of two cylindrical
mirrors 2 , one plane mirror 3 and a perspex lens 4 , which
focuses the light on the photocathode of the photomultiplier 5 .
For gases (n - 1 ≪ 1) the usual formulae describing
Cherenkov radiation assume the following form (Ref. 1).
The energy threshold of the counter is given by

$$\gamma_{threshold} \approx \left[2(n-1)\right]^{-1/2}$$, where $\gamma = 1/\sqrt{1 - \beta^2}$ is the total
energy of the particles in units of the rest mass, and n is
the refractive index of the gas. The maximum angle at which

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A Gas-filled Cherenkov Counter

the radiation is emitted is given by:

$$\vartheta_{max} = \arccos(1/n) \approx \sqrt{2(n-1)} \ .$$

The number of quanta (in the region of sensitivity of the photo-cathode) emitted per unit length of the path of the beam of particles with $\beta = 1$ is given by:

$$dN/de = 872(n-1) \ .$$

The Lorenz-Lorentz formula for perfect gases shows that dN/de is proportional to the pressure of the gas and ϑ_{max} is proportional to the square root of the pressure. The refractive index of freon-13 at a pressure of 760 mmHg and a temperature of 20 °C is $N = 1.000731$. The following table gives the values of dN/de and ϑ_{max} for different pressures of freon-13:

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A Gas-filled Cherenkov Counter

P, atm	n - 1	ϑ_{max}	dN/de quanta/cm
1	0.000731	$2^\circ 10'$	0.64
5	0.00366	$4^\circ 50'$	3.2
10	0.00731	$6^\circ 50'$	6.4
15	0.01095	$8^\circ 20'$	9.6
20	0.01420	$9^\circ 30'$	12.8 .

These data are based on the Lorenz-Lorentz formula assuming
that the gas is perfect. They are therefore only approximate.
The length of the Cherenkov counter employed by the present
authors was 100 cm so that it follows that at a pressure of
1 atm the number of quanta emitted by a particle with $\beta = 1$,
which is passed through the counter, is 64. At this pressure
the emission angle is small and the light is reflected from
the plane mirror only. If it is assumed that the light
collection is 50% and the average quantum yield is 5%, then
the number of electrons formed at the photocathode under these

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A Gas-filled Cherenkov Counter

conditions is 1.5. The light from the photomultiplier is fed
to a wideband amplifier and then to a fast coincidence
circuit (resolving time 3×10^{-8} sec). The efficiency of the
counter at a pressure of 1 atm is about 0.8. As the pressure
is increased the amount of light increases but the light
collection deteriorates, since with increasing angle of
emission the number of reflections at the cylindrical mirrors
also increases. It is clear from these approximate calculations
that the efficiency of the counter may be made to approach
100%. The Cherenkov counter designed on the basis of these
calculations was tested on the 270 MeV synchrotron of FIAN
(Physics Institute of the AS USSR). The experiment is
illustrated schematically in Fig. 2. A beam of γ-rays
produced electrons with an arbitrary momentum at the copper
converter P . The electrons then traversed a lead collimator
and were analysed by the magnetic analyser N . As a result,
a beam of electrons was separated out with a momentum of about

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S/120/60/000/006/009/045
EC32/E314

A Gas-filled Cherenkov Counter

200 MeV/c. The Cherenkov counter C was placed between two scintillation counters S_1 and S_2. These counters were so arranged that every particle passing through them also passed through the Cherenkov counter. The counter S_2 was followed by two further counters, S_3 and S_4. The efficiency of the Cherenkov counter was determined as the ratio of the quadruple coincidences $S_1 C S_3 S_4 / S_1 S_2 S_3 S_4$ (i.e. the efficiency of the scintillation counter S_2 was assumed as being 100%). Fig. 3 shows the efficiency of the gas Cherenkov counter as a function of pressure. The efficiency was found to be 100% between about 3 and 15 atm. Acknowledgments are expressed to S. Ya. Nikitin for interest and advice, Yu.M. Zaytsev, V.S. Tikhonov, Yu.V. Fadeyev for assistance and P.A. Cherenkov, A.N. Gorbunov, V.F. Grushin and Ye.M. Leykin for their collaboration during the actual tests on the synchrotron.

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E032/E314

A Gas-filled Cherenkov Counter

There 3 figures, 1 table and 2 references: 1 Italian and
1 Soviet.

SUBMITTED: October 20, 1959

Card 6/6

85678

S/056/60/038/006/020/049/XX
B006/B070

24.6300

AUTHORS: Balats, M. Ya., Kondrat'yev, L. N., Landsberg, L. G.,
             Lebedev, P. I., Obukhov, Yu. V., Pontekorvo. B.

TITLE: Non-radiative Transitions in Heavy μ-mesic Atoms [9]

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki,
             1960, Vol. 38, No. 6, pp. 1715 - 1719

TEXT: This paper is concerned with studies of the spectra of X-ray
photons emitted by mesic atoms of uranium and lead. Since so far only
two 2P→1S transition mechanisms in mesic atoms have been studied
(emission of meso-X-ray photons, and Auger effect) this work is a
supplement as well as a contribution to the data on the properties of
heavy nuclei. The experimental arrangement is described in the intro-
duction and schematically shown in Fig. 1. A π-beam (270 Mev/c) from
the synchrocyclotron of OIYaI (Joint Institute of Nuclear Research)
was used. The targets had a thickness of 10.7 g/cm^2 for uranium and
of 10.3 g/cm^2 for lead. A scintillation counter with a photomultiplier

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85678

Non-radiative Transitions in
Heavy μ-mesic Atoms

S/056/60/038/006/020/049/XX
B006/B070

of the type ϕ?Y-33 (FEU-33) served as the gamma quantum detector. The
counter pulses were conveyed to a 64-channel pulse-height analyzer.
The background of the accidental coincidences amounted to about 5%
of the counting rate. A Na^{24} source (E_γ = 1.38 and 2.76 Mev) was used
for calibration and checking the linearity. The results of measurement
for the range 3 - 8 Mev are shown in Fig. 3. Curve I gives the upper
limit of the background, II the lower limit for the background of Pb
and III the lower limit for the background of U (n - number of counts
per analyzer channel). The spectra are normalized for one and the same
μ-mesons stopped in the target. The Pb curve has a clear peak at ~5.3
Mev. On account of the smallness of the NaI (TI) crystal, this peak
can be due to three photon energies: 1) E_γ; 2) E_γ -0.5; Mev;
3) E_γ -1.02 Mev, where E_γ = 6.02 Mev is the energy of the 2P→ 1S
transition photons in mesic lead. In the region of the peak (5 - 5.5 Mev),
less counts were obtained from uranium than from lead. The mean energy
of the peak corresponding to the transition 2P→1S is about 200 kev
larger from uranium than from lead. The photon intensity difference
at 6 Mev in mesic uranium and mesic lead indicates that a non-radiative

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85678

Non-radiative Transitions in   S/056/60/038/006/020/049/XX
Heavy μ-mesic Atoms   B006/B070

transition of μ^- mesons to the 1S level of mesic uranium takes place
here. Such a non-radiative transition in which the transition energy
is directly transferred to the nucleus, had not yet been observed.
A rough estimate of the ratio of the non-radiative transition
probability in lead to the probability of emission of a photon gives
the value $(W_b/W_8)_{U238} \sim 0.2$. Preliminary experiments have further shown

that non-radiative transitions take place also in Th^{232}.
A. I. Alikhanov is thanked for his interest, and D. F. Zaretskiy for
making some results available before publication. G. Ye. Belovitskiy
is mentioned. The preliminary results of these investigations were
communicated by A. I. Alikhanov to the Nineth All-Union Conference on
Physics of High-energy Particles held in Kiyev in 1959. There are
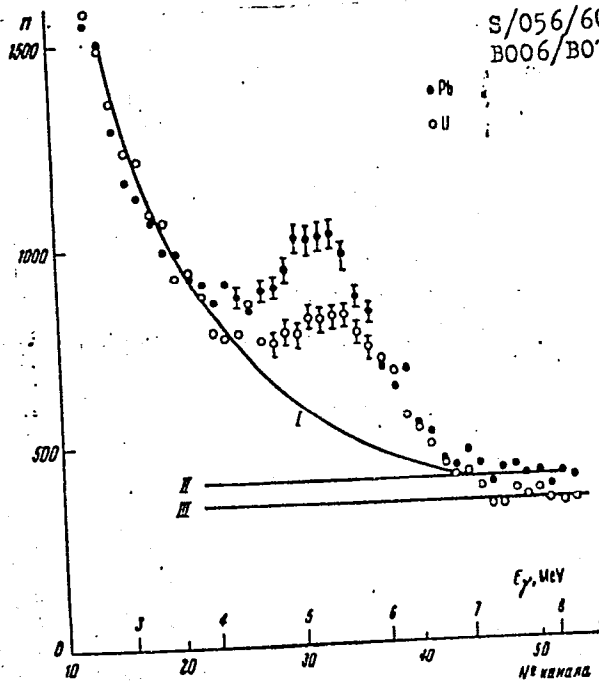3 figures and 6 references: 2 Soviet, 3 US, and 1 Dutch.

SUBMITTED: January 19, 1960

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85678

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B006/B070

Fig. 3
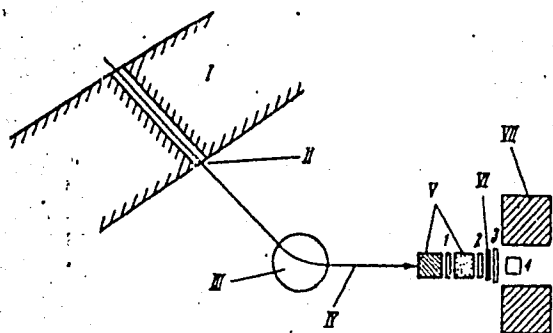

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05078

S/056/60/038/006/020/049/XX
B006/B070

Fig.1

Legend to Fig. 1: I - concrete shield, II - collimator, III - deflecting magnet, IV - π^-beam, V - filter (75 g/cm^2 Cu + 32g/cm^{2}B$_4$C), VI - target, VII - counter shield (20 cm lead), 1,2 -plastic scintillators, (110 mm diameter, 10 mm thick), 3 - the same (125 mm diameter, 12 mm thick), 4 - NaI(Tl) crystal (30 mm diameter, 10 mm thick).

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84429

24.6900

S/056/60/039/004/047/048
B006/B056

AUTHORS: Balats, M. Ya., Kondrat'yev, L. N., Landsberg, L. G.,
              Lebedev, P. I., Obukhov, B. V., Pontekorvo, B.

TITLE: The Intensity of Radiationless Transitions in μ-Mesic Atoms /9

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1960,
              Vol. 39, No. 4(10), pp. 1168 - 1170

TEXT: In an earlier paper (Ref. 1) the authors found that the intensity
of mesic X-rays 2P - 1S in U^{238} normalized to one stopped muon is con-
siderably less than in Pb. This fact indicates the existence of radiation-
less transitions in heavy mesic atoms, in which the energy of the 2P - 1S
transition is not liberated in the form of an X-ray photon. It is assumed
that the probability of radiationless transition (W_{rl}) in mesic lead is
negligibly small in comparison to the probability ($W_{h\nu}$) of a transition
with emission of one photon ($(W_{h\nu})_{Pb}$ ≈ 1) : $1 > (W_{rl})_{U^{238}}/(W_h)_{U^{238}} > 0.1$.
Now, the authors investigated the 2P - 1S transition intensities in the

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The Intensity of Radiationless Transitions in   S/056/60/039/004/047/048
μ-Mesic Atoms   B006/B056

mesic atoms of Pb, Bi, Th, U^{235}, and U^{238}, and give a report on this in-
vestigation. With the help of a scintillation spectrometer, the X-ray
spectra in the energy ranges corresponding to the transitions were
measured. Special attention was paid to determining the background level.
Figs. 1 and 2 show examples of the spectra recorded. Fig. 1 shows the
spectra of mesic X-ray photons from targets of Pb(4.46 g/cm^2),
Bi(4.46 g/cm^2), and U^{238}(4.60 g/cm^2); as abscissa, the pulse height in
volts, and as ordinate, the number of pulses in an interval of 5v is
taken. Fig. 2 shows the same for Pb(5.56 g/cm^2)and U^{235}(5.59 g/cm^2). The
intensities of mesic X-radiation (2P - 1S) normalized to one stopped
μ^--meson (in relative units) are given in a table:

	Intensities	Fraction of radiation-less 2P - 1S transitions
Pb	1	
Bi	1 ± 0.06	0 ± 0.06
Th	0.85 ± 0.07	0.15 ± 0.07
U^{235}	0.71 ± 0.05	0.29 ± 0.05
U^{238}	0.77 ± 0.04	0.23 ± 0.04

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LANDSBERG, L. G.

BATAYEV, A.I., BALATS, M.Ya., KAFTANOV, V.S., LANDSBERG, L. G., LYUBIMOV, V.A., OBUKHOV, Yu. V.

"Search for $\mu \to 2e$ Decay"

report presented at the Intl. Conference on High Energy Physics, Geneva, 4-11 July 1962

Inst. of Theoretical and Experimental Physics, Moscow, USSR

LANDSBERG, L.G.

ALIKHANOV, A.I., BABYEV, A.I., BALATS, M. Ya., KAFTANOV, V.S., LANDSBERG, L.G., LYUBIMOV, V.A., OBUKHOV, Yu. V.

"Search for $\mu \to e + \gamma$ decays"

report presented at the Intl. Conference on High Energy Physics, Geneva, 4-11 July 1962

Institute of Theoretical and Experimental Physics, Moscow, USSR

S/056/62/042/006/046/047
B104/B112

AUTHORS: Babayev, A. I., Balats, M. Ya., Kaftanov, V. S., Landsberg,
L. G., Lyubimov, V. A., Obukhov, Yu. V.

TITLE: Search for the $\mu^+ \longrightarrow e^+ + e^+ + e^-$ decay

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 42,
no. 6, 1962, 1685-1687

TEXT: An attempt to find the $\mu \rightarrow 3e$ decay was made with the apparatus
shown in Fig. 1. The current of 70-Mev π^+ mesons was separated by
coincidences in counters I, II, and 0. The number of π^+ mesons stopped in
counter 0 was determined from the number of $\mu^+ \longrightarrow e^+ + \nu + \bar{\nu}$ decays
recorded by counters 0 and III (1, 2, $\overline{3}$ + 4, 5, $\overline{6}$ + 7, 8, $\overline{9}$ + 10, 11, $\overline{12}$).
Fast coincidences of any pair of lateral counters with a central counter
generate a control signal which is amplified and fed to the high-voltage
electrodes of two spark chambers. The particle tracks in the chambers
are photographed and the interval between the stoppage of a π^+ meson and
the generation of the control signal is measured simultaneously. The
amplitude of the pulses generated in counter 0 by decay π^+ mesons and decay

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Search for the $\mu^+ \rightarrow e^+ + e^+ + e^-$ decay

S/056/62/042/006/046/047
B104/B112

electrons is recorded by an oscilloscope. After 70 hrs of operation it was not possible to find a $\mu \rightarrow 3e$ decay among $6.98 \cdot 10^8$ stops. There are 2 figures.

ASSOCIATION: Institut teoreticheskoy i eksperimental'noy fiziki
               (Institute of Theoretical and Experimental Physics)

SUBMITTED: April 9, 1962

Fig. 1. Experimental apparatus.
Legend: (Ц) and (П) spark chambers; (K-1) and (K-2) motion-picture cameras
(3) mirror for stereoscopic pictures.

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S/056/62/043/005/058/058
B125/B104

AUTHORS: Babayev, A. I., Balats, M. Yu., Kaftanov, V. S.,
             Landsberg, L. G., Lyubimov, V. A., Obukhov, Yu. V.

TITLE: Further search for the $\mu^+ \to e^+ + e^+ + e^-$ decay

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 43,
             no. 5(11), 1962, 1984

TEXT: The present study reports new results on the $\mu \to 3e$ decay, obtained
with the aid of the experimental arrangement used by A. I. Babayev
(Preprint ITEF, 1962; ZhETF, 42, 1685, 1962). $1.38 \cdot 10^9$ muon stops were
recorded on the target. Through 150 hours not a single stopping process
was found that had satisfied the kinematic and other criterions indicated
in the above-mentioned previous work. Additional calibrating measurements
and electronic computations gave the value $\xi = 0.012$ for the total
efficiency of the recording of $\mu \to 3e$ decays when the matrix element of the
process $\mu \to 3e$ was assumed to be constant, and the value $\epsilon = 0.014$ when the
matrix element had the form $|M|^2 = \text{const } \epsilon_3(1 - \epsilon_3)$. For $\epsilon = 0.012$ the
upper limit ρ of the number of $\mu \to 3e$ decays is found to be $\rho < 1.45 \cdot 10^{-7}$,
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Further search for the...

whereas $\varphi < 1.25 \cdot 10^{-7}$. holds for $\varepsilon = 0.014$.

SUBMITTED: September 24, 1962

S/056/62/043/005/056/058
B125/B104

Card 2/2

L 6778-65   EWT(m)/T/EWA(h)   IJP(c)/AFMDC/ASD(a)-5

ACCESSION NR: AP4044072   S/0120/64/000/004/0087/0089   53
                                                                      47

AUTHOR: Bayatyan, G. L.; Zel'dovich, O. Ya.; Landsberg, L. G.

TITLE: Gas threshold Cerenkov counter functioning in a wide angular range

SOURCE: Pribory i tekhnika eksperimenta, no. 4, 1964, 87-89

TOPIC TAGS: Cerenkov counter, gas counter, threshold counter, particle counter

ABSTRACT: A new particle counter is described which is intended for studying
π-p scatter in the experimental separation of π-mesons from protons within
1-4 Gev/s; the counter produces anticoincidence signals when π-mesons,
scattered by a target within 15-20°, pass through it. The design features of the
counter are illustrated in Enclosure 1. The freon-13 filled counter was tested
with a π-meson beam taken from an ITEF 7-Gev accelerator. By a proper
selection of pressure, the inefficiency of the counter could be reduced to 0.9% for

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L 6778-65

ACCESSION NR: AP4044672

$\overline{\rho}$-mesons with 1.5-Gev/s or 0.3% for 3 Gev/s. The efficiency of the Cerenkov counter connected for coincidence with scintillation counters is, within the plateau, 99.4%. "The authors wish to thank A. I. Alikhanov for his attention, N. G. Petrov and M. N. Porubay for their part in designing the counter, and also Yu. V. Fadeyev for his help in the work." Orig. art. has: 5 figures.

ASSOCIATION: Institut teoreticheskoy i eksperimental'noy fiziki GKAE (Institute of Theoretical and Experimental Physics, GKAE); Fizicheskiy institut AN ArmSSR (Institute of Physics, AN ArmSSR)

SUBMITTED: 14Aug63   ENCL: 02

SUB CODE: NP   NO REF SOV: 001   OTHER: 000

Card 2/4

L 14439-66   EWT(m)/T   IJP(c)
ACC NR: AT6002501

SOURCE CODE: UR/3138/65/000/372/0001/0008

AUTHOR: Galaktionov, Yu. V.; Landsberg, L. G.; Lyubimov, V. A.

ORG: none

TITLE: Efficiency of scintillation counters in registration of neutrons with a momentum of several bev/c

SOURCE: USSR. Gosudarstvennyy komitet po ispol'zovaniyu atomnoy energii. Institut teoreticheskoy i eksperimental'noy fiziki. Doklady, no. 372, 1965. Issledovaniye effektivnosti registratsii neytronov s impul'som neskol'ko Bev/c stsintillyatsionny-mi schetchikami, 1-8

TOPIC TAGS: scintillation counter, neutron detector, pion scattering, neutron scattering

ABSTRACT: The authors studied the efficiency of scintillation counters for regis-tration of neutrons. The neutrons were produced by pion-neutron scattering at angles of 120-180° from a target of heavy or ordinary water located within a cylin-drical spark chamber. The counter signal produced by forward scattered neutrons was

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L 14439-66
ACC NR: AT6002501   4

recorded on an oscillograph while the chamber was simultaneously photographed. The
efficiency of neutron registration was determined by using the photographs to sort
out backward scattering events. Two types of scintillation counters were studied.
In the first type, a block of scintillating plastic was used for registration of
neutrons. The scintillator had a thickness of 280 mm on the path of the neutron.
Neutrons were recorded at angles of $\pm 12°$ from the axis of the counter. The effi-
ciency of this type of counter was found to be 0.58 ± 0.07 for a neutron momentum of
2.1 bev using data for a heavy water target. The second type of neutron recorder
was made up of three thin (15 mm) scintillation counters with iron plates 6 cm thick
in front of each of them. A separate photomultiplier was used for scanning each
scintillation counter. This type of counter has an efficiency of 0.51 ± 0.06 for
a neutron momentum of 3.0 bev/c. The authors are grateful to G. A. Bayatyan, O.
Ya. Zel'dovich and N. N. Luzhetskiy for assistance with the measurements. We are
also grateful to M. Ya. Balats for discussing a number of ideas in setting up the
experiment. Orig. art. has: 1 figure, 3 tables.

SUB CODE: 18/   SUBM DATE: 21Jul65/   ORIG REF: 001/   OTH REF: 000.

Card 2/2

5

L 65207-65   EWT(m)/T/EWA(m)-2

ACCESSION NR: AP5021735   UR/0386/65/002/002/0090/0094

AUTHOR: Alikhanov, A. I.; Bayatyan, G. L.; Brakhman, E. V.; Galaktionov, Yu. V.;
Yeliseyev, G. P.; Yech, F. A.; Zul'dovich, O. Ya.; Landsberg, L. G.; Lyubimov, V.
A.; Sidorov, I. V.   49

TITLE: Elastic backward scattering of π-mesons by neutrons in the 1.4-4.0 Bev/s
pulse range

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki. Pis'ma v redaktsiyu.
Prilozheniye, v. 2, no. 2, 1965, 90-94

TOPIC TAGS: pi meson, particle scatter, neutron scattering

ABSTRACT: The elastic backward scattering reaction $\pi^-+n \to \pi^-+n$ is studied in the
1.38-4.05 Bev/s pulse range. 1700 events of this reaction were selected with a pion
scattering angle of >90°. The solid angles for these events were measured (accuracy
of measurement in the horizontal plane was 1° and in the vertical plane--5°). The
results are given in graphic and tabular form. Orig. art. has: 3 figures, 1 table.

ASSOCIATION: none

Card 1/2

L 65207-65

ACCESSION NR: AP5021735

SUBMITTED: 02Jun65   ENCL: 00   SUB CODE: NP

NO REF SOV: 000   OTHER: 000

Card 2/2

L 30993-66   EVT(m)/T
ACC NR: AT6002498

SOURCE CODE: UR/3138/65/000/350/001/0012

AUTHOR: Alikhanov, A. I.; Bayatyan, G. L.; Brakhman, E. V.; Eliseev, G. P.; Galaktionov, Yu. V.; Landsberg, L. G.; Lyubimov, V. A.; Sidorov, L. V.; Zeldovich, O. Ya.; Yetch, F. A.

ORG: none

TITLE: π⁻ - meson-neutron elastic backward scattering at 1.4-4.0 bev/c

SOURCE: USSR. Gosudarstvennyy komitet po ispol'zovaniyu atomnoy energii. Institut teoreticheskoy i eksperimental'noy fiziki. Doklady, no. 350, 1965. Pi sup minus-meson-neutron elastic backward scattering at 1.4-4.0 Bev/c, 1-12

TOPIC TAGS: pion scattering, neutron scattering, elastic scattering, scattering cross section, angular distribution, spark chamber

ABSTRACT: The authors study the elastic backward scattering reaction
$$\pi + n \rightarrow \pi + n$$
in the 1.38-4.05 bev/c range. A spark chamber was used with photographic and neutron counter registration. The experimental installation was highly efficient in

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L 30993-66
ACC NR: AT6002498

recording γ-quantum from π^0-decays, and the admixture of inelastic events

$$\pi^- + n \rightarrow \pi^- + n + K\pi^{0+-}$$

in the 1700 cases of the elastic backward scattering reactions which were selected for study was no more than 2%. The solid angles for these cases were measured and the absolute cross sections were determined. Tables are given showing the cross section $\sigma_n = \sigma_{D_2O} - \sigma_{H_2O}$ and $R = \sigma H_2O/\sigma_{D_2O}$ as functions of energy. The total error in calculation of these cross sections due to necessary corrections for pion-pion and pion-neutron scattering in the ambient medium, electronic efficiency, beam composition and the shielding effect of nucleons in the deuterium was 25%. Data for σ_n and $<\sigma_n>$ as functions of energy show some irregularity in the 2-3 bev region which may be due to resonance. Measurements of angular distribution for pion-neutron scattering show a minimum in the 162-180° region. The momentum transfer function is used as a basis for calculating the width of this minimum. A comparison of the experimental data obtained in this paper with those in the literature shows that the cross section $d\sigma/d\Omega$ is approximately inversely proportional to energy when the momentum transfer is constant. Orig. art. has: 4 figures, 2 tables.

SUB CODE: 20/   SUBM DATE: 00/   ORIG REF: 000/   OTH REF: 009

Card 2/2 ZC

L 45992-66   EWT(l)/EWT(m)/T   IJP(c)   WW

ACC NR: AP6030128   SOURCE CODE: UR/0120/66/000/004/0056/0059

AUTHOR: Bayatyan, G. L.; Galaktionov, Yu. V.; Zel'dovich, O. Ya.; Landsberg, L. G.

ORG: [Bayatyan] Institute of Physics GKAE, Yerevan (Institut fiziki GKAE); Institute of Theoretical and Experimental Physics GKAE, Moscow (Institut teoreticheskoy i eksperimental'noy fiziki GKAE)

36
32
β

TITLE: Large scintillation counters and counters intended for operation in magnetic fields

SOURCE: Pribory i tekhnika eksperimenta, no. 4, 1966, 56-59

TOPIC TAGS: scintillation counter, particle counter

ABSTRACT: The results are reported of testing (a) large (up to 700 x 350 x 15 mm) scintillation counters with one photomultiplier, and (b) long-lightguide counters capable of operating in strong magnetic fields. The large counters with 190--250-mm lightpipes were illuminated by a gamma beam from Cs^{137}; the irregularity of light collection was found to be 40% or less. The effect of the scintillation-crystal shape on the efficiency of particle recording was also explored. In the second type of counters, the ambient magnetic field was eliminated by either a compensating magnetic field derived from a special solenoid or by using lightguides long enough (1500--1800 mm) for locating the photomultiplier in a (50--100-oe) region permitting

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L 45992-66

ACC NR: AP6030128   4

application of magnetostatic shields. In one case of magnetic compensation, the
counter operated with an efficiency of 0.997. "In conclusion, the authors wish to
thank V. A. Lyubimov for useful discussions and graduate students Yu. V. Devyatykh,
Ye. A. Strel'nikov, and V. D. Tarasov for their part in measurements." Orig. art.
has: 4 figures, 1 formula, and 2 tables.   [03]

SUB CODE: /8/ SUBM DATE: 12Aug65 / ORIG REF: 004 / ATD PRESS: 5087

Card 2/2   pb

ACC NR: AT6001620   SOURCE CODE: UR/3138/65/000/373/0001/0016

AUTHOR: Bayatyan, G. L.; Galaktionov, Yu. V.; Zel'dovich, O. Ya.; Landsberg, L. G.

ORG: [Bayatyan] Institute of Physics GKIAE, Yerevan (Institut fiziki GKIAE, Yerevan)

TITLE: Large scintillation counters and counters for operation in magnetic fields

SOURCE: USSR. Gosudarstvennyy komitet po ispol'zovaniyu atomnoy energii. Institut teoreticheskoy i eksperimental'noy fiziki. Doklady, no. 373, 1965. Bol'shiye stsintillyatsionnyye schetchiki i schetchiki dlya raboty v magnitnykh polyakh, 1-16

TOPIC TAGS: scintillation counter, photomultiplier, STRONG magnetic field, light wave

ABSTRACT: Large scintillating counters and long light guides are essential for work-in the area of strong magnetic fields. The authors have tested a variety of such counters in their experiments. The counters differed in shape and size of the crystals and length of light guides. In the case of each counter the authors de- termined the dependence of its effectiveness on the voltage of the photomultiplier and, in some cases, on the area of passage of particles through the scintillator. Measurements were conducted by studying cosmic rays   and.   a beam generated by the ITEF accelerator under high load conditions. The signals from the counters entered the high-speed coincidence circuits. The resolution period of the circuits

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ACC NR: AT6001620

was 10-15 n sec. From the outputs of these circuits the standard signals proceeded to a slow coincidence circuit, which had a resolution of 10^{-7} sec. and an effectiveness of 100%. The experiments were conducted with large dimension counters, counters operating in strong magnetic fields, and counters with magnetic field compensation. Measurements of the amplitude spectrum of signals from the multipliers, taken with the magnetic field turned on and off, have shown that the activation of the magnetic field results only in an insignificant shift of the spectrum toward lower amplitudes (by 15-20%). The authors thank V. A. Lyubimova for her useful evaluations and Yu. V. Devyatikh, E. A. Strel'nikov, and V. D. Tarasova for their participation in the measurements. Orig. art. has: 1 formula, 2 tables, and 7 figures.

SUB CODE: 18. / SUBM DATE: 26Jul65/ ORIG REF: 003/ OTH REF: 000

Card 2/2

LANDSBERG, M.

Treatment of rheumatism with steroid harmones and ascorbic acid.
Polski tygod. lek. 5:13, 27 Mar. 50. p. 490-1

1. Of the Department of Internal Diseases of the Municipal Hospital
No. 9 (Radogoszcz) in Lodz (Director—Docent Marceli Landsberg, M. D.).

CLML 19, 5, Nov., 1950

LANDSBERG, R. S,

VIL'DT, Ye.O.; LANDSBERG, R.S.; KHROMOY, A.V.

Supplement to the list of Russian literature on automatic control and allied problems for 1951 published in issue no.2 for 1952. Avtom. i telem. 14 no.2:246-249 Mr-Ap '53.   (MLRA 10:3)
        (Bibliography--Automatic control)